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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,695	03/30/2004	Tae-Woong Koo	INTEL1510 (P18520)	7238

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EXAMINER

YU, MELANIE J

ART UNIT	PAPER NUMBER
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1641

DATE MAILED: 07/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/814,695

Applicant(s)

KOO ET AL.

Examiner

Melanie Yu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) 14-46 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/24.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of group I, claims 1-13, in the reply filed on 12 May 2005 is acknowledged. Applicant does not provide grounds for traversal of the restriction.

The requirement is still deemed proper and is therefore made FINAL. Claims 14-46 are withdrawn as being drawn to non-elected inventions.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear whether the metal colloids recited in claim 9 are the same as the metallic colloids recited in claim 1.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Siiman et al. (US 5,945,293).

With respect to claims 1, 2 and 8 Siiman et al. teach a method for producing metallic colloids comprising: contacting silver nitrate metal cations with a reducing agent of sodium

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citrate in aqueous solution (col. 12, lines 58-60; col. 12, lines 63-67), and heating the aqueous solution to about 90°C (col. 12, lines 60-61), which is about 95°C, thereby producing metallic colloids.

Regarding claim 7, Siiman et al. teach a concentration of 0.589 M silver nitrate and 1.36 M sodium citrate in the aqueous solution (col. 12, lines 56-67), both of which encompass the recited at least about 0.5 M concentration.

4. Claims 1-4, 8-9 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Vo-Dinh (US 6,174,677).

With respect to claims 1-4 and 8, Vo-Dinh teaches a method for producing metallic colloids, comprising: contacting metal cations (silver nitrate, col. 13, line 67) with a reducing agent (sodium citrate, col. 13, line 67) in an aqueous solution (col. 14, lines 3-6), and boiling the aqueous solution for 1 hour (col. 14, lines 6-7), which encompasses the recited heating for at least about 30 minutes and heating for at least about 60 minutes. Although Vo-Dinh does not specifically teach heating the solution to about 95°C, the instant specification describes the heating to 95°C by boiling at par. 0060. Therefore, since the boiling of Vo-Dinh is the same as the instant specification, the temperature the aqueous solution is heated to is about 95°C.

Regarding claims 9, 10 and 12, Vo-Dinh teaches attaching an organic molecule containing a thiol moiety, which is a sulfur group, to the surface of metal colloids (thiol, col. 14, line 46).

5. Claims 1, 2, 5 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Smith et al. (US 2004/0234958).

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Smith et al. teach a method for producing metallic colloids, comprising: contacting silver nitrate metal cations with a tri-sodium citrate reducing agent in an aqueous solution and heating the aqueous solution to about 98°C, which is about 95°C (par. 0220).

With respect to claim 5, Smith et al. teach temperature control using a microwave generator for faster heating (par. 0087).

6. Claims 1, 2, 6 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Hossainy et al. (US 2001/0014717).

Hossainy et al. teach a method for producing metallic colloids, comprising: contacting metal cations with a reducing agent in aqueous solution (par. 136), and heating the aqueous solution to about 90°C (stent is coated with aqueous solution par. 136, and coated stent is heated to about 90°C, par. 104), which is about 95°C, wherein the heating is performed using a convection oven (laboratory oven, par. 104; is a convection oven, par. 105).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
7. Claims 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vo-Dinh (US 6,174,677) in view of Yukinobu et al. (US 6,716,480).

Vo-Dinh, as applied to claims 1 and 9, teach a method for producing metallic colloids and attaching an organic molecule to the surface of the metallic colloids, but fail to teach the organic molecule having a molecular weight less than about 500 Daltons.

Yukinobu et al. teach a thiomalic acid, which has a molecular weight of 150 Daltons which is encompassed by the recited less than about 500 Daltons, attached to a gold microparticle (col. 5, lines 38-67), in order to provide a transparent conductive layer on gold particles.

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to attach to the metallic colloids of Vo-Dinh et al., functional groups of thiomalic acid as taught by Yukinobu et al., in order to provide improved bonding strength to a substrate.

### *Conclusion*

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie Yu whose telephone number is (571) 272-2933. The examiner can normally be reached on M-F 8:30-5.

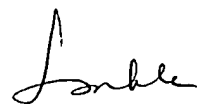
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on (571) 272-0823. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Melanie Yu  
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Art Unit 1641



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07/05/05